



PATENT

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WHAT IS CLAIMED IS:

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1. A pelletized dense additive for lost circulation, seepage control, fluid loss and control of lubricity, viscosity and rheology in drilling operations, comprising:

a ground raw base material that is compressed into a pellet, said pellet having a density substantially greater than that of the ground base material.

2. The pelletized dense additive of claim 1 wherein the base material is selected from the group consisting essentially of lignites, leonardites, lignin-based powders, bitumens, lignosulfonates, asphalts, clays, polyacrylate homopolymers and copolymers, cellulosic polymers, xanthan gums, metal silicates, starches, guar gum, cellulosic fibers, fatty acids, amphoteric, carboxymethyl cellulose, welan gum, hydrocarbon resins, barite, hematite, hydroxyethylcellulose, chlorides, bromides, polyphosphates, zinc, gilsonite, graphite, coke and mixtures thereof.

3. The pelletized dense additive of claim 1 wherein the base material further includes compounds selected from the group consisting essentially of calcium carbonate, mica, diatomaceous earth, Fuller's earth and other silicates, activated charcoal, bauxite, alumina gel, graphite, gilsonite and mixtures thereof.

4. (Amended) The pelletized dense additive of claim 1 wherein the base material further includes compound selected from the group consisting essentially of lignites containing calcium hydroxide, leonardite, leonardite with potassium, leonardite with gyp, organophilic leonardite, lignin-based powders, bitumens and mixtures thereof.

5. The pelletized dense additive of claim 1 wherein the base material further includes compounds selected from the group consisting essentially of lignosulfonates, lignosulfonates with chrome, lignosulfonates with calcium, lignosulfonates with iron, lignosulfonates with tin, lignosulfonates with zinc lignosulfonates with heavy metals and mixtures thereof.

6. The pelletized dense additive of claim 1 wherein the base material further includes compounds selected from the group consisting essentially of asphalt, sodium sulfonate asphalt, potassium sulfonate asphalt and mixtures thereof.

7. The pelletized dense additive of claim 1 wherein the base material further includes compounds selected from the group consisting essentially of clays, organophilic clays, attapulgite clays, montmorillonite clays, kaolinite clays, calcined clays and mixtures thereof.

8. The pelletized dense additive of claim 1 wherein the base material further includes compounds selected from the group consisting essentially of polyacrylate powders, polyacrylamide homopolymers, polyacrylamide copolymers, polyanionic cellulose, cellulosic polymers and mixtures thereof.

9. The pelletized dense additive of claim 1 wherein the base material further includes compounds selected from the group consisting essentially of xantham gums, metal silicates,

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vegetable starches, fatty acids, cellulose compounds, barium sulfate, hematite, hydroxyethylcellulose, sodium chlorides, calcium chloride, potassium chloride, bromides, polyphosphate, sodium, calcium, zinc, gilsonite, graphite, petroleum coke, calcine coke, Rockwool insulation and mixtures thereof.

10. The pelletized dense additive of claims 1-9 further comprising a binding agent selected from the group consisting essentially of clays, guar gum, lignosulfonate, wood sugar, starch and mixtures thereof.

11. The pelletized dense additive of claim 1 wherein the base material is a mixture of two or more base materials wherein one of the base materials being an organic material.

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12. The pelletized dense additive of claim 4 wherein the organic material is selected from the group consisting essentially of ground wood, pine bark, fruit pomace, vegetable pomace, yellow pine, pine bark, corn cobs, peanut hulls, pecan pits, almond shell, corn cob outers, bees wings, cotton burrs, kenaf, silage, oat hulls, rice hulls, seed shells, sunflower, flax, linseed, cocoa bean, feathers, peat moss, jute, flax, mohair, wool, sugar cane, bagasse, sawdust, bamboo, cork, popcorn, tapioca, grain sorghum and soluble gums.

13. The pelletized dense additive of claims 1 wherein the pellets have a diameter substantially in the range of 1/8 inch to 3/4 inch and a length substantially in the range of 1/8 inch to 2 inches.